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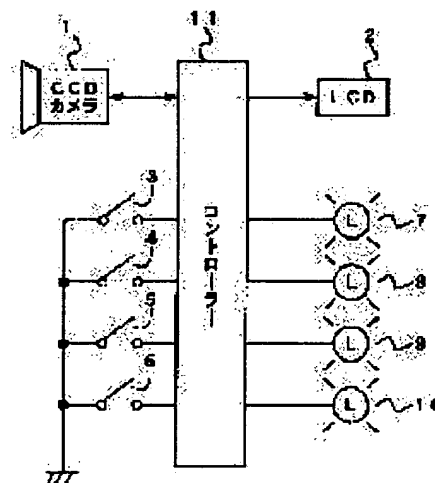
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(54) ON-VEHICLE CAMERA

(57)Abstract:

PROBLEM TO BE SOLVED: To prevent flicker in a photographed image by prohibiting auto-iris control of an on-vehicle camera when a vehicle body lamp is flashed.

SOLUTION: A controller 11 is constituted with a microcomputer and its peripheral parts, a control program is executed and auto-iris control is performed. When an outside vehicle monitoring switch 3 is turned on, the control program is executed by the controller 11 at every specified interval of time. It is confirmed whether a turn signal switch 4 or 5 or a hazard switch 6 is turned on and, when any one is switched on, the auto-iris control of a CCD camera 1 is prohibited and a charge accumulative time is fixed to a constant value. When all the turn signal lamps 4 and 5 and the hazard switch 6 are turned off, the auto-iris control is permitted, photometry is performed by a photometry circuit of the CCD camera 1 and the charge accumulative time of a CCD imaging device is set in accordance with a photometry value.



LEGAL STATUS

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CLAIMS

[Claim(s)]

[Claim 1] The mounted camera which is a mounted camera equipped with the CCD image sensor for picturizing the outside of a vehicle, and is characterized by forbidding auto iris control of said mounted camera while the car-body sheathing lamp is blinking.

[Claim 2] It is the mounted camera characterized by fixing the charge storage time of said CCD image sensor to constant value in a mounted camera according to claim 1 while said car-body sheathing lamp is blinking.

[Claim 3] The mounted camera characterized by containing a turn signal lamp and a hazard lamp in said car-body sheathing lamp in a mounted camera according to claim 1 or 2.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention improves auto iris control of a CCD camera especially about the camera which carries in a car and supervises the outside of a vehicle etc.

[0002]

[Description of the Prior Art] With the camera equipped with the CCD (Charge Coupled Device) image sensor, the charge storage time was controlled by the photometry result of a field, and the same effectiveness as automatic drawing adjustment has been acquired. Usually, the charge storage time of a CCD image sensor is determined according to a photometry value according to a predetermined function, and it shortens the charge storage time, so that there is much light income.

[0003] On these descriptions, charge storage-time control of the CCD image sensor according to a photometry value is called auto iris control or adjustable-speed electronic shutter control.

[0004]

[Problem(s) to be Solved by the Invention] By the way, when the camera equipped with the CCD image sensor mentioned above is carried in a car as a camera for supervising the outside of a vehicle and a turn signal lamp, a hazard lamp, etc. of a car blink, since a photometry value pulsates, auto iris control may become instability, the charge storage time may be changed, and an image pick-up image may flicker. When adjustment which thought responsibility as important especially is performed, in extent which gives a hysteresis to a photometry value, the unstable state of the auto iris control resulting from pulsation of a photometry value is not avoided.

[0005] The object of this invention is to improve the stability of auto iris control of a mounted camera.

[0006]

[Means for Solving the Problem] (1) Invention of claim 1 is the mounted camera equipped with the CCD image sensor for picturizing the outside of a vehicle, and while the car-body sheathing lamp is blinking, it forbids auto iris control of a mounted camera.

(2) The mounted camera of claim 2 fixes the charge storage time of a CCD image sensor to constant value, while the car-body sheathing lamp is blinking.

(3) A turn signal lamp and a hazard lamp are contained in the car-body sheathing lamp of the mounted camera of claim 3.

[0007]

[Effect of the Invention] Since according to this invention auto iris control of a mounted camera is forbidden, for example, the charge storage time was fixed to constant value while the car-body sheathing lamp was blinking, even if car-body sheathing lamps, such as a turn signal lamp and a hazard lamp, blink, the stability of auto iris control can be raised so that an image pick-up image cannot flicker.

[0008]

[Embodiment of the Invention] Drawing 1 shows the configuration of the gestalt of 1 operation. CCD camera 1 is equipped with a CCD image sensor, a photometry circuit, an image-processing circuit, an auto iris control circuit, etc., and picturizes the situation outside a vehicle. LCD2 is a display which displays the image outside the vehicle picturized by CCD camera 1. The monitor-vehicle outside switch 3 is an operating member for operating CCD camera 1 and LCD2 and performing the monitor outside a vehicle. Moreover, a turn signal lamp switch 4 is an operating member for blinking the turn signal lamps 7 and 8 before and behind right-hand side, and a turn signal lamp switch 5 is an operating member for blinking the turn signal lamps 9 and 10 before and behind left-hand side. Furthermore, the hazard switch 6 is an operating member for blinking simultaneously all the turn signal lamps 7-10.

[0009] A controller 11 consists of a microcomputer and its circumference component, performs the control program mentioned later, and performs auto iris control.

[0010] In addition, although the gestalt of this operation shows the example combining and and a hazard lamp, you may prepare separately, respectively.

[0011] Moreover, although the gestalt of this operation raises and explains a turn signal lamp and a hazard lamp to an example as a car-body sheathing lamp which blinks at the time of burning, this invention is applicable to all the car-body sheathing lamps that blink at the time of burning of those other than a turn signal lamp and a hazard lamp.

[0012] Drawing 2 is a flow chart which shows an auto iris control program. This flow chart explains actuation of the gestalt of 1 operation. As for a controller 11, ON of the monitor-vehicle outside switch 3 performs this control program for every predetermined time. In step 1, it checks whether turn signal lamp switches 4 or 5 or the hazard switch 6 turns on, and when either turns on, it progresses to step 2. At step 2, auto iris control of CCD camera 1 is forbidden, and the charge storage time is fixed to constant value. What is necessary is just to fix to the charge storage time set up based on the last photometry value at this time.

[0013] When turn signal lamps 4 and 5 and the hazard switch 6 turn all off, it progresses to step 3, and auto iris control is permitted. That is, the strength of the light is measured by the photometry circuit of CCD camera 1, and the charge storage time of a CCD image sensor is set up according to a photometry value.

[0014] Thus, since auto iris control of a CCD camera is forbidden and the charge storage time was fixed to constant value while the turn signal lamp or the hazard lamp was blinking, even if a lamp blinks, the stability of auto iris control can be raised so that an image pick-up image cannot flicker.

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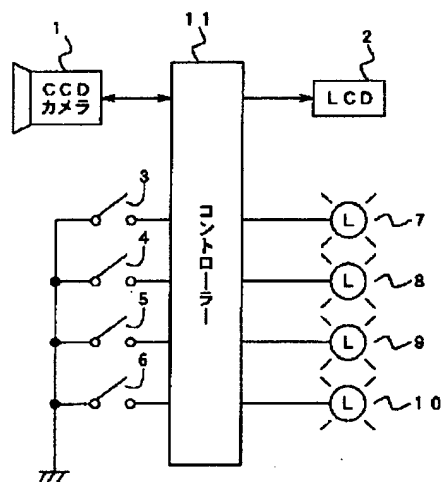
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DRAWINGS

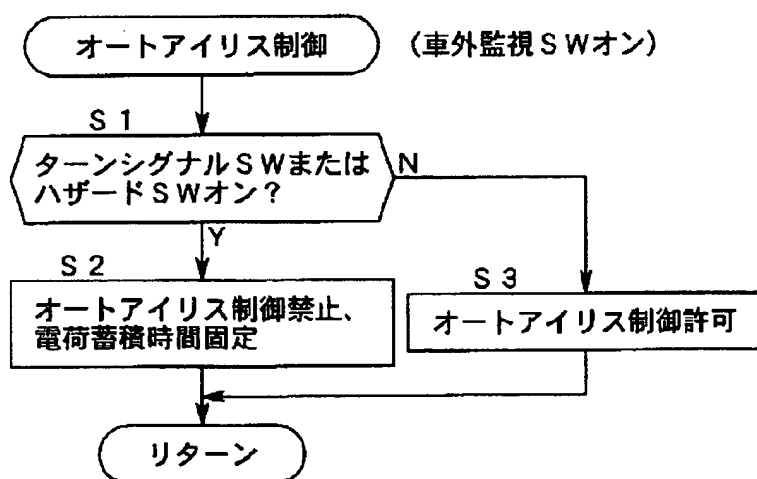
[Drawing 1]

【図 1】



[Drawing 2]

【図 2】



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